

Welcome to the first newsletter about Chain of Lakes improvements!

### Bellaire Dam History

The original dam was constructed soon after the first settlers arrived. Its purpose was to power a sawmill and to make it easier to float logs. Soon after, Henry Richardi, owner of a woodenware factory next to the dam, was responsible for fitting the dam with equipment to generate electricity.

In the early 1900s, the City of Charlevoix needed an electrical power source for their street lights. This resulted in Charlevoix funding the renovation of the Bellaire Dam for their power generation. The Bellaire dam generated power for many years and was decommissioned in the 1950s. In 1971, Antrim County took ownership of the Bellaire Dam.

Beginning in 1973, the summertime water level of Intermediate Lake was established by a circuit court order. On November 1 of each year, the order calls for the level to be dropped to a certain level. The court has changed the legal lake level several times over the years.

In practice, the water level has a fluctuation of several inches with a significant rain or melt—even if the dam is wide open. However, most of the time the level is within about an inch of the ordered level.

### Elk Rapids Dam History

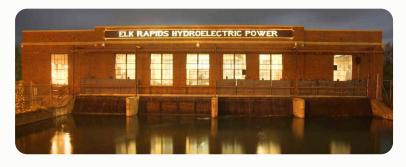
The original Elk Rapids Dam was built with the arrival of the first settlers. It first powered a sawmill, but due to increasing demand for power, **it was electrified in the late 1800s** to supply the growing iron foundry and related industries.

The Elk Rapids Iron Company sold the dam to the Elk Electric Company in the 1920s. It later came into the ownership of Consumers Power and was decommissioned in the 1950s. In the late 1970s, the County recommissioned the facility as hydroelectric. The current generating equipment was installed soon afterward.

In 2007, roughly 30 years after the dam was recommissioned as hydroelectric, Antrim County contracted with the family-owned Elk Rapids Hydroelectric LLC to operate the facility. In 2015, the Elk Rapids dam received its Federal Energy Regulatory Commission re-license.

That license is valid until 2045

The dam's brick building houses the generating equipment. Built into its foundation are chutes. Water enters a chute through gates on the upper side and flows into a large chamber. A turbine sits in the middle of the chamber with gates at the top edge. Water flows through the gates and



The dam is located on Dexter Street, between the upper (Elk Lake) and lower (Grand Traverse Bay) boat harbors. The dam is an integral part of Elk Rapids' historic downtown and waterfront. The downstream side of the dam is a popular fishing destination.

pushes the turbine blades as it falls. The turbine turns a shaft that drives the generator. All of the generating equipment is monitored 24/7.

For information about lake levels, see the article on page 3 titled "Court-Ordered Levels."

### Our Watershed

What exactly is a watershed? According to the National Oceanic and Atmospheric Administration (NOAA), a watershed is "a land area that channels rainfall and snowmelt to creeks, streams, and rivers."

In the case of the Elk Rapids Chain of Lakes (ERCOL) Watershed, all watershed runoff eventually sheds through the Elk Rapids Hydrodam and into Grand Traverse Bay.

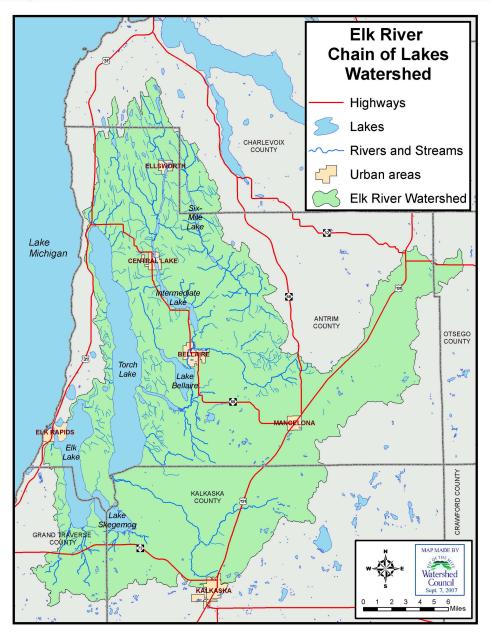
The ERCOL Watershed provides 60% of the water that flows into **Grand Traverse Bay**.

More fun facts about the ERCOL Watershed:

- 505 square miles
- 200 miles of shoreline
- 75 miles of waterways,
- 14 lakes
- 7 rivers
- +200 streams
- 40' drop in elevation

Also, there are **four counties** in the ERCOL Watershed:

- Antrim County
- Charlevoix County
- Grand Traverse County
- Kalkaska County



### Lake Level Advisors

The ERCOL Watershed is a large and complex system that is of critical importance to County residents and visitors. The 1973 and 1990 court-ordered lake levels and the age of the dams adds even more complexity. (Information regarding the court orders is on page 3.)

## There is also a sense of urgency regarding the ERCOL Watershed.

Known issues plague the Ellsworth Bridge Street culvert, the Bellaire Dam, and the Elk Rapids Overflow Spillway. In addition, there are numerous sedimentation issues throughout the system.

In 2016, an informal group began gathering to discuss how to address these issues. These dedicated people included representatives from all lake associations and the County Drain Commissioner. Their goal was to find options and solutions for the ERCOL system and the Bellaire Dam.

However, the group quickly realized that the first step had to be **gathering data regarding the system.** (See the article titled "Recent Planning Progress" on page 3.)

In 2023, the data was compiled and incorporated into a computer program that models how rainfall lands and collects across the system.

At that point, more people were added to the group of lake level advisors; engineers specializing in dam design, a grant writer, a drain attorney, and municipal leaders from throughout the watershed. A number of the professionals are volunteers.

With the Upper Chain of Lakes flooding following the **2025 Ice Storm** and the 2020 failure of the **Edenville Dam** in Midland County still very fresh in people's minds, the Lake Level Advisors continue to work hard to find options and solutions for the ERCOL Watershed.

### Recent Planning Progress

Lake level issues are a concern for the entire ERCOL Watershed. The Antrim County Drain Commissioner (ACDC) has been working with local governments and lake associations to find a solution.

A recent partnership with the US Army Corps of Engineers resulted in models that are being used to study behavior patterns of the water flow and to predict lake water levels under different storm scenarios.

The Hydrologic Model System transforms rainfall amounts into a quantity of runoff. The River Analysis System computes streamflow characteristics such as depth, width, and flow velocity.

A 2023 report noted that **the Bellaire**Dam would overtop its banks if a

100-year flood event fell on the

upper chain (also known as a 1%

flood). Also, the Elk Rapids Hydrodam

overflow spillway is more than 100

years old and is need of repair. Antrim

County has received a State grant

from to engineer a solution.

In May 2025, the Antrim County Board of Commissioners affirmed that the ACDC has the authority to address lake levels. An advisory group (see Lake Level Advisors on page 2) has identified a number of options and made a recommendation. After construction documents are prepared, costs can be obtained.

### Lake Level Sensors Placed

In addition to the USGS gauge on Intermediate Lake, four Hyfi lake level sensors were recently installed on the Chain of Lakes, one each at the following locations; the Bridge Street culvert in Ellsworth, Morhmann Bridge, the trestle bridge on Bellaire's walking path, and the Elk Rapids Hydrodam. Sensors on each of the Chain's lakes are planned.

The sensors will assist the Operator of Dams and engineers in designing and making improvements to lake levels throughout the Elk River Chain of Lakes Watershed. Live sensor data will soon be available to the public.

The sensors are precise solar-powered measuring devices. Any tampering of the sensors are likely to result in expensive recalibration. For more information on the system, check out the https://www.hyfi.io/ website.



Lake level sensor near the Bellaire Dam

## Datums, Datums, Everywhere

A minor piece of the ERCOL Watershed complexity puzzle are the different datums that have been used over the years.

What is a datum? NOAA's websites states that a datum is a "coordinate system with a reference surface (such as sea level) that serves to provide known locations to begin surveys."

That makes sense, but ... there are multiple datums. Why? As technology advances, more accurate datums are develped. NGVD 29, IGLD 85, and NAVD 88 have all been used at different times, and IGLD 2027 is coming soon. The design engineers are converting old elevations to the most recent datum to ensure consistency.

### Court-Ordered Levels

There are two different active lake level court orders in Antrim County.

1973 Lake Level Court Order

This circuit court order notes two different seasonal levels for **Elk and Skegemog Lakes.** The summer lake level is 590.8 feet. The order states that "summer" is April 15 to November 1. The winter lake level is 590.2 feet, with winter being defined as November 1 to April 15.

1990 Lake Level Court Orдег

This circuit court order notes two different seasonal levels for **Intermediate Lake.** The summer lake level is 607.15 feet. This order states that summer is May 15 to November 1. The winter level is 606.54 feet, with winter being defined as November 1 to May 15.

Michigan Court of Appeals

In 2022, the Michigan Court of Appeals held that though a legal lake level must be strictly maintained, it was acknowledged that variations in levels may take place. Examples are:

- Weather or other natural conditions
- Construction of lake level infrastructure
- Operation of lake level infrastructure

In case you wanted more info about Court-Ordered Lake Levels

Public Act 112 of 2024 amended the definition of a "normal" lake level to allow temporary variations due to things such as weather and natural conditions.

Explicitly permitting variations in lake level orders provides additional protections for counties and lets property owners know that variations are expected.

### **Funding Options**

Cost estimates for the work needed to protect the ERCOL Watershed now and into future generations are not yet available. However, early projections indicate that the cost will be millions of dollars, and that cost will only increase over time due to inflation. That leads to a crucial question: how can we pay for this multi-year, multi-phased project?

### What's Been Done Already

Historically, the County has taken responsibility for the operation, maintenance, and improvement of the lake level control structures. The millions of dollars needed for this project, however, far exceeds what Antrim County alone can pay for.

Antrim County provided a grant match of \$75,000 during the partnership with the US Army Corps of Engineers for the modeling study (see Recent Planning Progress on the previous page.) The County also paid for a \$27,000 follow-up study and \$50,000 in match funds for a State of Michigan grant that paid for engineering plans.

Though additional grant funding continues to be explored, the grant landscape has shifted dramatically. and no grant opportunities are curently available. The only realistic option remaining is a Special Assessment District (SAD).

# Next Steps

The ERCOL Watershed is in four counties. To expedite this large and important project, the Antrim County and the Kalkaska County Boards of Commissioners have approved resolutions affirming that the Antrim County Drain Commissioner (ACDC) has the authority to address lake levels.

The ACDC is working to obtain similar resolutions from the Charlevoix and Grand Traverse County Boards of Commissioners.

Once all four resolutions are in place, the ACDC will file a petition with the 13th Circuit Court to update the lake level orders and to confirm the special assessment district boundaries.

The ACDC has retained legal counsel, finance counsel, and engineers to prepare recommendations and assist with the lengthy SAD process.

Due to the two existing court orders,

it will be necessary to have two unique Special Assessment Districts, one for the Upper Chain and one for the Lower Chain. The Special Assessment Districts will include all properties with private legal access to the Chain of Lakes. All property owners will be required to pay the SAD fee; residential, commercial, nonprofits, and units of government, including the DNR.

### **Upcoming Presentations**



Leslie Meyers, **Antrim County** Drain Commissioner, will be giving lake level talks on:

#### October 20, 2025 at 9 am

Milton Township Hall 7023 Cherry Ave., Kewadin, MI

#### October 20, 2025 at 6 pm

Banks Township Hall 6520 Center St., Ellsworth, MI

#### October 21, 2025 at 7 pm

Torch Lake Township Hall 2355 US-31, Kewadin, MI

#### November 10, 2025 at 9 am

Elk Rapids Township 315 Bridge St., Elk Rapids, MI

#### November 11, 2025 at 7 pm

Custer Township Hall 2949 Alden Hwy., Mancelona, MI

#### November 12, 2025 at 11:30 am

Kalkaska Co. Board of Commissioners 605 North Birch St., Kalkaska, MI

Ms. Meyers would be pleased to present to groups large and small, for whatever length of time best suits your group. Contact her at meyersl@antrimcountymi.gov or 231-533-3633 to arrange a date and a time.

#### Leslie Meyers

Drain Commissioner 231-533-3633 meyersl@antrimcountymi.gov

### What Will This Cost Me?

Two crucial pieces of information must be finalized before the cost per parcel can be determined:

- Cost estimates for the project
- · Precise number of properties that will be included in the SAD

As soon as a per parcel cost is available, it will be released. The anticipated date for that release is early summer of 2026.



### For more information:

**?** 231-533-3633

TinyUrl.com/ACDrainComm

**Look for Monthly Updates!**